



N A R R A T I V E   R E P O R T

Pathfinder National Wildlife Refuge

January through December  
1968

Administered from Hutton Lake National Wildlife Refuge  
Laramie, Wyoming

REFUGE PERSONNEL

Refuge Manager . . . . . LeMoyné B. Marlatt  
(Transferred 2/14/68)

Refuge Clerk . . . . . Vera M. Collins  
(Transferred 12/6/68)

Maintenanceman . . . . . David E. Heffernan  
(Temporary-Intermittent April to October 1968)

Beginning November 15 1968, Hutton Lake, Pathfinder, and Bamforth  
Refuges came under the jurisdiction of Arapaho National Wildlife  
Refuge, headquartered at Walden, Colorado.

REFUGE PERSONNEL

Refuge Manager . . . . . V. Carrol Donner

UNITED STATES DEPARTMENT OF THE INTERIOR  
Fish and Wildlife Service  
Bureau of Sport Fisheries and Wildlife  
Walden, Colorado

NARRATIVE REPORT  
1968

Pathfinder National Wildlife Refuge

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T A B L E O F C O N T E N T S

I. GENERAL	Page
A. Weather Conditions . . . . .	1
B. Habitat Conditions . . . . .	2
II. WILDLIFE	
A. Migratory Birds . . . . .	3
B. Upland Game Birds . . . . .	4
C. Big Game Animals . . . . .	4
D. Fur Animals, Predators, Rodents, and Other Mammals . . . . .	4
E. Hawks, Eagles, Owls, Crows, Ravens and Magpies . . . . .	4
F. Other Birds . . . . .	4
G. Fish . . . . .	5
H. Reptiles . . . . .	5
I. Disease . . . . .	5
III. REFUGE DEVELOPMENT AND MAINTENANCE	
A. Physical Development and/or Maintenance . . . . .	5
B. Plantings . . . . .	5
C. Collections and Receipts . . . . .	5
D. Control of Vegetation . . . . .	6
E. Planned Burning . . . . .	6
F. Fires . . . . .	6
IV. RESOURCE MANAGEMENT	
A. Grazing . . . . .	6
B. Haying . . . . .	6
C. Fur Harvest . . . . .	6
D. Timber Removal . . . . .	6
E. Commercial Fishing . . . . .	6
F. Other Uses . . . . .	7
V. FIELD INVESTIGATIONS AND APPLIED RESEARCH . . . . .	7
VI. PUBLIC RELATIONS	
A. Recreational Uses . . . . .	7
B. Refuge Visitors . . . . .	7
C. Refuge Participation . . . . .	7
D. Hunting . . . . .	7
E. Violations . . . . .	8
F. Safety . . . . .	8
VII. OTHER ITEMS . . . . .	8

NARRATIVE REPORT  
January through December  
1968

Pathfinder National Wildlife Refuge

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I. GENERAL

A. Weather Conditions

The following table presents a summary of weather conditions as recorded at a weather station located at Pathfinder Dam. The information shown will be somewhat different than data presented in previous narrative reports. The writer went to the Bureau of Reclamation headquarters in Casper and was able to pick up information from weather station records there. Previously, information was secured from the Weather Bureau in Cheyenne. Information supplied by them included only monthly mean maximum and mean minimum temperatures and also lacked maximum and minimum temperatures and snowfall data. The data as presented seem to be more useful for our purposes.

<u>Month</u>	<u>Snowfall</u>	<u>Precipitation</u>		<u>Temperature</u>	
		<u>This Month</u>	<u>Normal</u>	<u>Max.</u>	<u>Min.</u>
Jan.	3.0	.26	.29	43	-13
Feb.	0	.37	.38	49	- 3
March	3.0	.57	.63	66	10
April	5.0	1.64	1.11	67	9
May	0	1.38	1.59	83	22
June	0	1.16	1.19	91	37
July	0	.25	1.03	93	41
August	0	.80	.88	92	41
Sept.	0	.14	.83	87	24
Oct.	1.0	.25	.86	73	22
Nov.	9.0	.64	.49	55	7
Dec.	10.0	.60	.30	50	-19
Total	31.0	8.06	9.58		
Extremes				93	-19

The only real deviation from a normal weather pattern in 1968 was a droughty trend. Nine months of 1968 were below average in precipitation and total precipitation was 1.52" below the annual average.



Even the storms that occurred further east during April and May leaving the Laramie area with heavy amounts of moisture had little effect on the Pathfinder area.

The last spring freeze occurred with a temperature of 29° on May 20, the first fall freeze occurred on September 30 with 24°.

Temperatures, always quite erratic in the high plains, stayed near normal. The years high of 93° occurred in July, the low of -19° occurred in December.

## B. Habitat Conditions

### 1. Water

Generous flows occurred in the Sweetwater and North Platte Rivers, maintaining favorable levels in Pathfinder Reservoir most of the year. A major water level fluctuation occurred in late summer. By June 1, the reservoir surface had risen 8.2 feet above the January 1 level. A drop of 31 feet occurred from July 1 to October 1, but much of it was restored during the fall and winter months and the reservoir level on December 31 was .77 feet above that on January 1.

Following is a chart showing Reservoir surface elevations on the first day of each month throughout 1968:

#### Water Levels - Pathfinder

January	5801.94
February	5804.94
March	5808.96
April	5809.28
May	5807.84
June	5810.14
July	5810.00
August	5799.10
September	5785.16
October	5779.00
November	5784.24
December	5792.34
December 31	5802.71

Runoff in the Sage DeWeese and Horse Creek drainages showed little deviation from normal. Water levels in the spring-fed Soda Lakes held quite well until August, when levels receded noticeably.

## 2. Food and Cover

Good soil moisture conditions and a favorable reservoir level in the early months of the growing season resulted in good to excellent conditions until mid-July. Shortage of precipitation in July and the 31-foot drawdown of the reservoir had serious detrimental affects on all vegetation affording food and cover for wildlife. Impact was the greatest on aquatic vegetation; upland conditions averaged good for the year.

## II. WILDLIFE

### A. Migratory Birds

#### 1. Ducks

Use of the Pathfinder Refuge by ducks increased for the fourth consecutive year. The earlier (in 1968) reporting periods showed very marked increases over 1967, overcoming a small loss during the September-December reporting period. Thus it appears that the duck-use pattern was probably correlated with the declining habitat conditions. Duck-use totaled 369,430 use-days during 1968, 233,464 use-days in 1967.

Figures for duck production is based mainly on data gained from a canoe trip down the Sweetwater River and ground observations on the Soda Lakes. This covers about 90% of the total production potential on Pathfinder.

Duck production was up from 480 in 1967 to 640 in 1968. Again, in 1968 Pintails were the main nesters with 250 young produced; Mallards were second in production with 140 young produced.

#### 2. Geese

Use of the refuge by geese during 1968 totaled 12,411 use-days, down noticeably from 30,520 in 1967. Production, however, made a change upward from 30 in 1967 to 45 in 1968.

#### 3. Swans

No swans were noted this year.

#### 4. Coots

Coots make only limited use of Pathfinder Refuge. The use-days total of 5,530 in 1968 was very close to that of last year.

## 5. Other Water Birds

There are many species of other water birds that use Pathfinder Refuge at various times of year. Among them are avocets, ibis, phalaropes, curlews, grebes, dowitchers, snipes, cormorants, herons and pelicans.

## 6. Mourning Doves

Doves are seen regularly, but only in numbers under 50.

## B. Upland Game Birds

Movement of sage grouse on and off the refuge makes it difficult to be specific in a use-figure. Average population is probably somewhere around 100.

## C. Big Game Animals

Various sized bands of pronghorn antelope make use of the refuge intermittently. Frequent observations of young antelope in 1968 indicate that the downward population trend mentioned in last year's report may be temporarily slowed some or leveled off.

Mule deer frequent portions of the Sweetwater Arm of Pathfinder Refuge. The population remained stable at about 70 animals.

## D. Fur Animals, Predators, Rodents and Other Mammals

No important changes in animals in these categories were noted in 1968.

## E. Hawks, Eagles, Owls, Crows, Ravens and Magpies

Census records and other notes made during 1968 do not reveal any unusual sightings or any important change in the status of predaceous birds on Pathfinder.

## F. Other Birds

The great variation in types of bird habitat at Pathfinder quite naturally results in many species of birds being seen there. They range from white-throated swifts and swallows in the cliffs to lark buntings, larks, water thrushes and many others preferring different habitat.

#### G. Fish

Game fish in important numbers occur only in the river channel traversing the Sage Creek-Platte Unit and DeWeese Creek on its way to the reservoir. Carp and other rough fish are commonly seen in the Sweetwater River within the Refuge.

Pathfinder Reservoir is occasionally stocked with rainbow and brown trout by the Wyoming Game and Fish Department.

#### H. Reptiles

Prairie rattlers are regular inhabitants of portions of Pathfinder Refuge. Only one sighting of a rattler was recorded this year.

#### I. Disease

None noted

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development and/or Maintenance

Several small jobs, mostly continuation of last year's work were completed. The spoil piles created by last year's cleanout of springs on the Soda Lake Unit were leveled and seeded. The springs were then fenced to keep livestock from trampling them closed.

Fencing of the trash pit, dug during the fall of 1967, was completed.

Contractor Herman Forsberg was employed to repair the eroded and leaking fills on the DeWeese Creek series of ponds.

A new sign was constructed and erected at the entrance to the Sage Creek-Platte Unit.

#### B. Plantings

None

#### C. Collections and Receipts

None

D. Control of Vegetation

None

E. Planned Burning

None

F. Fires

No fires - planned or otherwise.

IV. RESOURCE MANAGEMENT

A. Grazing

The fenced portion of the Sweetwater Arm of the refuge, known as the Soda Lakes Unit, was deferred from all domestic livestock grazing during calendar years 1966, 1967 and 1968. During 1968, permission was granted to Bureau of Reclamation in Casper to allow 400 AUM's of grazing during the winter - namely January and February of 1969. We plan to continue grazing at this level during the winter months only.

This administrative step is in accordance with a memorandum of understanding between the Bureau of Reclamation (Pathfinder Project Office) and our Bureau. Determination of amounts and period of use allowed is our responsibility. Actual handling of permits and collections is done by Bureau of Reclamation.

All other areas of the Pathfinder Refuge are fenced in with other public and private lands so administrative control of grazing and similar resource activities is not practical.

B. Haying

None

C. Fur Harvest

None

D. Timber Removal

None

E. Commercial Fishing

None

F. Other Uses

None

V. FIELD INVESTIGATIONS AND APPLIED RESEARCH

No activity in this area.

VI. PUBLIC RELATIONS

A. Recreational Uses

Recreational use of the Pathfinder Refuge by the public is almost entirely incidental to or in conjunction with recreational use of public and private lands adjoining. In most cases there is not even a fence to delineate between refuge and other lands.

A few deer and antelope hunters camped along the Sweetwater River on the refuge.

B. Refuge Visitors

Please refer to the Hutton Lake narrative report.

C. Refuge Participation

Contact with the public is limited in this area to incidental contact with the public on the rather infrequent trips to this refuge.

D. Hunting

1. Big Game

All refuge areas were open to deer and antelope hunting. Lack of refuge personnel made it impossible to carry out any patrol work during these seasons; little is known about this activity on the refuge in 1968.

2. Waterfowl

The Sage Creek-Platte, DeWeese Creeks and Goose Bay Units were open to waterfowl hunting. For the same reason cited in the preceding paragraph, little is known about this activity on these areas in 1968.

E. Violations

No known violations.

F. Safety

Covered in the Hutton Lake report.

VII. OTHER ITEMS

A. Photos

The two photos appended were taken by Maintenceman Heffernan with a government camera and processed at government expense.

B. Right-of-Way Negotiations, State Route 220

Following scores of contacts and reams of correspondence, the right-of-way and associated details of this highway project were supposedly all settled. Immediately after the new manager arrived in November, the Wyoming Highway Department was heard from again. It seems that when the department got down to final planning, some of the items requested and supposedly previously agreed to were more costly than anticipated. At any rate, they asked to have some of the approach fills and cattle guards deleted from the plans. The refuge manager made a trip to Pathfinder with a representative of the Wyoming Highway Department on November 29, for an on-the-ground inspection. Following this trip, recommendations for some changes were made and approved. It appears that this item has been settled to the satisfaction of all concerned.

C. Credits

This report was written by Refuge Manager Donner with the help of some good notes left by Temporary Maintenceman Heffernan and Acting Refuge Manager, Mrs. Collins.

Typing was done by Mrs. Smith, Clerk-Typist at the Arapaho Refuge. Mrs. Smith started with the Bureau at the new office in Walden on March 20, 1969, but was hired in time to do the typing on the Hutton Lake and Pathfinder reports.

Submitted by:

May 23, 1969

*V. Carol Donner*

V. Carol Donner  
Refuge Manager

*1*  
*10*

Reviewed by:

*W. Schmidt*

Assistant Regional Director-Operations

JUN 24 1969





BEFORE

New boundary sign at entrance  
to Sage Creek-Platte Unit.



AFTER

Jan-April



W A T E R F O W L

REFUGE Pathfinder

MONTHS OF January TO April, 19 68

(1) Species	(2) Weeks of reporting period									
	12/31-1/6	1/7-13	1/14-20	1/21-27	1/28-2/3	2/4-10	2/11-17	2/18-24	2/25-3/2	3/3-9
	1	2	3	4	5	6	7	8	9	10
Swans:	Only infrequent visits were made to the Pathfinder Refuge during this period. Totals were calculated on actual census figures for some weeks, and estimates for other weeks, based on trends in past records as to peak dates, percentage of increase at peak, etc.									
Whistling										
Trumpeter										
Geese:										
Canada	20	20	20	20	20	20	20	20	20	20
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	110	110	110	110	110	110	110	110	110	110
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye	30	30	30	30	30	35	30	30	30	30
Bufflehead										
Ruddy										
Other C.Merganser	20	20	20	20	20	40	40	20	20	20
Total ducks	160	160	160	160	160	185	180	160	160	160

1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL  
(Continuation Sheet)

REFUGE \_\_\_\_\_

MONTHS OF \_\_\_\_\_ TO \_\_\_\_\_, 19\_\_\_\_

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	3/10-16: 11	3/17-23: 12	3/24-30: 13	3/31-4/6: 14	4/7-13: 15	4/14-20: 16	4/21-27: 17	18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	20	20	20	20	20	20	20		2,380		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	150	150	150	400	400	355	355		21,420		
Black											
Gadwall	70	70	100	120	120	95	95		4,690		
Baldpate	100	120	120	150	150	115	115		6,090		
Pintail	800	800	800	1,500	1,500	1,070	1,070		52,780		
Green-winged teal	100	100	100	200	200	225	225		8,050		
Blue-winged teal	10	10	10	40	40	32	32		1,218		
Cinnamon teal											
Shoveler	100	100	100	150	150	190	190		6,860		
Wood											
Redhead	400	400	400	500	500	395	395		20,930		
Ring-necked	10	10	10	30	30	18	18		882		
Canvasback	50	50	50	80	80	50	50		2,870		
Scaup	60	60	60	100	100	85	85		3,850		
Goldeneye	30	30	30	30	30	30	30		3,605		
Bufflehead	8	8	8	10	10	4	4		364		
Ruddy	30	30	30	50	50	35	35		2,030		
Other C. Merganser	20	20	20	20	20	12	12		2,618		
Total Ducks	1,938	1,958	1,988	3,380	3,380	2,711	2,711		137,977		
Coot:											
				(over)							

	(5)	(6)	(7)	SUMMARY	
	Total Days Use	Peak Number	Total Production		
Swans				Principal feeding areas	Sweetwater Arm and North
Geese	2,380	20		Platte River areas.	
Ducks	137,977	2,380		Principal nesting areas	Geese at Soda Lakes
Coots					
				Reported by	Vera M. Collins, Acting Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3 751  
Form NR-1A  
(Aug. 1952)

MIGRATORY BIRDS  
(Other than Waterfowl)

Refuge Pathfinder Months of January to April, 19 68

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name		Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>					NOTES INCOMPLETE						
Eared grebe		45	4/27			Still present					1,000
Western grebe		6	4/27			"	"				240
Pied-billed grebe		3	4/27			"	"				120
Common loon		2	4/27			"	"				50
Snowy egret		1	4/27			"	"				50
Great blue heron		1	4/27			"	"				50
II. <u>Shorebirds, Gulls and Terns:</u>											
Killdeer		33	4/27		Common	"	"				700
Long-billed curlew		3	4/27			"	"				180
Willet		5	4/27			"	"				300
Avocet		80	4/27		Common	"	"				2,000
California gull		3	4/27			"	"				200
						(over)					



(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove					
IV. <u>Predaceous Birds:</u> Golden eagle	Present	4	Still present		240
Duck hawk			" "		
Horned owl	Present	3			180
Magpie					
Raven					
Crow					
Bald eagle	Present	8	" "		300
Rough-legged hawk	Present	4	" "		160
Ferruginous hawk	Present	1	" "		100
Marsh hawk	Present	4	" "		240
Turkey vulture	3 4/27	4	" "		90
Reported by Vera M. Collins, Acting Ref. Mgr.					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
II. Shorebirds, Gulls and Terns (Charadriiformes)  
III. Doves and Pigeons (Columbiformes)  
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

(April 1946)

Refuge                      Pathfinder

Months of January to April, 1968

[illegible]



## INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

## SMALL MAMMALS

Refuge PathfinderYear ending April 30, 1968

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers Share	Refuge share				
No notes for period.														
* List removals by Predator Animal Hunter														

\* List removals by Predator Animal Hunter

REMARKS:

Reported by Vera M. Collins, Acting Refuge Mgr.

## INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprime-ness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

May-Aug.



W A T E R F O W L

REFUGE Pathfinder

MONTHS OF May TO August, 19 68

(1) Species	(2) Weeks of reporting period									
	4/28-5/4	5/5-11	5/12-18	5/19-25	5/26-6/1	6/2-8	6/19-15	6/16-22	6/23-29	6/30-7/6
	1	2	3	4	5	6	7	8	9	10
<b>Swans:</b>										
Whistling										
Trumpeter										
<b>Geese:</b>										
Canada	20	20	20	20	20	20	20	20	80	90
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<b>Ducks:</b>										
Mallard	300	250	200	200	200	200	200	200	300	350
Black										
Gadwall	90	80	70	70	70	60	60	60	60	80
Baldpate	80	60	50	40	40	20	15	30	40	40
Pintail	600	400	350	200	200	200	200	200	250	250
Green-winged teal	200	150	125	125	125	100	80	80	80	80
Blue-winged teal	30	30	30	30	30	25	25	25	25	20
Cinnamon teal		10	10	20	20	20	25	25	20	20
Shoveler	100	90	70	70	50	50	45	40	20	20
Wood										
Redhead	300	200	100	100	70	70	50	40	40	20
Ring-necked										
Canvasback	40	20	20	10	10	5	2	10	10	10
Scaup	70	30	20	10	15	10	10	4	4	4
Goldeneye	30	20								
Bufflehead										
Ruddy	30	30	30	30	20	20	20	20	20	30
Other C. Merganser	12	12	15	15	10	10	5	5	5	5
TOTAL DUCKS	1,882	1,382	1,090	920	860	790	737	739	874	929
Coot	10	10	10	15	15	15	15	20	20	20

1750a  
Cont. NR-1  
(Rev. March 1953)

WATERFOWL  
(Continuation Sheet)

REFUGE Pathfinder MONTHS OF May TO August, 19 68

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	7/7-13 11	7/14-20 12	7/21-27 13	7/28-8/3 14	8/4-10 15	8/11-17 16	8/18-24 17	8/25-31 18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	90	100	100	120	120	140	100	100	8,400	6	45
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	350	370	370	400	450	560	560	600	42,420	13	140
Black											
Gadwall	110	100	100	80	80	80	70	70	9,730	1	20
Baldpate	50	100	150	180	180	250	220	220	12,355	2	50
Pintail	150	150	500	580	690	800	800	800	55,140	19	250
Green-winged teal	200	200	200	200	200	200	230	250	19,775	6	70
Blue-winged teal	50	60	60	60	60	60	65	65	5,250	4	40
Cinnamon teal	40	50	50	50	50	50	60	70	4,130	2	20
Shoveler	70	70	70	70	70	80	80	80	8,015	5	40
Wood											
Redhead	60	20	30	30	30	50	50	50	9,170		
Ring-necked											
Canvasback	10	10	10	10	10	10	10	10	1,519		
Scaup	4	3	3	2	2	4	4	4	1,421		
Goldeneye									350		
Bufflehead											
Ruddy	30	20	20			30			2,450		
Other C. Meganser	15	15	15	15	15	15	15	15	1,498	2	10
TOTALS	1,439	1,468	1,578	1,677	1,837	2,189	2,164	2,234	173,523	54	640
Coot:	20	20	20	20	20	40	40	40	2,590	1	10
				(over)							

	(5)	(6)	(7)	SUMMARY
	Total Days Use	Peak Number	Total Production	
Swans				Principal feeding areas Sweetwater Arm, Soda Lakes,
Geese	8,400	140	45	Goose Bay, Deweese Creek and North Platte River.
Ducks	173,523	2,234	640	Principal nesting areas Soda Lakes; Sweetwater Arm;
Coots	2,590	40	10	some at Deweese Creek, Goose Bay and Sage Creek
				Reported by Vera M. Collins, Acting Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).



Refuge      Pathfinder

Months of May to August, 19 68

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Western grebe	Present		54	7/10	Still present				20	6,000
Eared grebe	Present		30	7/12	" "				15	3,000
Pied-billed grebe	Present		8	7/10	1	8/14				660
White pelican	4	6/13	4	6/13	4	6/13				28
Great blue heron	Present		9	8/14	Still present					500
Snowy egret	Present		1	6/13	1	6/13				50
II. <u>Shorebirds, Gulls and Terns:</u>										
California gull	Present		70	7/10	Still present					2,000
Franklin's gull	2	6/13	2	6/13	2	6/13				14
Forster's tern	1	6/13	2	7/3	2	7/3				60
Wilson's phalarope	200	6/12	500	8/14	Still present				150	35,000
American avocet	Present		100	7/12	" "				60	10,000
Woodcock	2	5/1	2	5/1	2	5/1				14
Long-billed dowitcher	5	7/12	20	8/15	Still present					1,300
Greater yellowlegs	9	7/12	30	8/15	30	8/15			10	2,000
Willet	Present		25	8/15	Still present				10	2,000
Long-billed curlew	Present		32	7/10	" "				15	2,500
Killdeer	Present		95	7/12	" "				60	7,000
(over)										



(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	2 6/12	40	8/14	Still present	20 2,500
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	Present	4		Still present	400
Duck hawk	1 6/13	1	" "		100
Horned owl	Present	3	" "		300
Magpie	5 6/13	20	" "		10 2,000
Raven					
Crow					
Turkey vulture	Present	5	7/12	Still present	400
Marsh hawk	Present	8	7/12	" "	600
Swainson's hawk	1 6/13	5	8/14	" "	3 600
Rough-legged hawk	Present	3	7/12	" "	200
Bald eagle	Present	2	" "	" "	200
Short-eared owl	Present	5	" "	" "	5 400
Burrowing owl	1 6/13	10	7/12	" "	5 900
Reported by Vera M. Collins. Acting Refuge Mgr					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1750b  
Form NR-1B  
(Rev. Nov. 1957)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Pathfinder For 12-month period ending August 31, 19 68

Reported by Vera M. Collins Title Acting Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type Acreage		(3) Use-days	(4) Breeding Population	(5) Production
Sweetwater Unit	Crops		Ducks 192,500	106	310
	Upland 9,947		Geese 18,200	12	32
	Marsh 540		Swans 7		
	Water 1,260		Coots 5,340	11	6
	Total 11,747		Total 216,047	122	348
Soda Lakes Unit	Crops		Ducks 146,200	90	200
	Upland 380		Geese 5,500	11	9
	Marsh 420		Swans		
	Water 420		Coots 1,520	2	11
	Total 1,220		Total 153,220	96	213
Goose Bay Unit	Crops		Ducks 19,250	12	25
	Upland 940		Geese 1,145	2	11
	Marsh 40		Swans		
	Water 160		Coots 380		
	Total 1,140		Total 20,775	14	29
Deweese Creek Unit	Crops		Ducks 19,000	30	80
	Upland 1,000		Geese 1,100		
	Marsh 40		Swans		
	Water 100		Coots 376		
	Total 1,140		Total 20,476	30	80
Sage Creek Unit	Crops		Ducks 8,036	10	25
	Upland 1,380		Geese 200		
	Marsh 20		Swans		
	Water 160		Coots 11		
	Total 1,560		Total 8,250	10	25
REFUGE TOTALS	Crops		Ducks 384,986	248	640
	Upland 13,647		Geese 26,145	18	45
	Marsh 1,060		Swans 7		
	Water 2,100		Coots 7,630	6	10
	Total 16,807		Total 418,768	272	695
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		

(over)

## INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

3-1752  
Form NR-2  
(April 1946)

# UPLAND GAME BIRDS

Refuge Pathfinder Months of May to August, 19 68

(1) Species	(2) Density	(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
		Acres per Bird	Number broods obs 'v' d. Estimated Total		Hunting	For Re- stocking	For Research		
Common Name	Cover types, total acreage of habitat			Percentage				Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sage grouse	Sage brush flats, draws, and meadows-- 750 acres	3.75	-	90	100:100	-	-	200	Five day hunting season began August 30 in Carbon and Natrona County areas surrounding the refuge-- three-bag and three-bird possession limit. This hunting season was less restrictive than last year's three-day season since sage grouse produc- tion was considerably better.



# INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information-but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

Sept.-Dec.





3 -17502

Cont. No.-1  
(Rev. March 1953)WATERFOWL  
(Continuation Sheet)REFUGE PathfinderMONTHS OF September TO December, 1968

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production : Broods: Estimated : seen : total	
	11/10-16	11/17-23	11/24-30	12/1-7	12/8-14	12/15-21	12/22-28	12/29-31			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada									1,631		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	100								16,100		
Black											
Gadwall	20								3,815		
Baldpate	10								6,020		
Pintail									14,350		
Green-winged teal									7,630		
Blue-winged teal									2,065		
Cinnamon teal									1,330		
Shoveler									4,830		
Wood											
Redhead									770		
Ring-necked									35		
Canvasback									70		
Scaup									560		
Goldeneye											
Bufflehead											
Ruddy											
<del>OTHER</del> Con. Merg.									350		
TOTALS	130								57,925		
Coot:	20								2,940		
					(over)						



	(5) Total Days Use	:	(6) Peak Number	:	(7) Total Production
Swans	0	:	0	:	
Geese	1,631	:	100	:	
Ducks	57,925	:	2,240	:	
Coots	2,940	:	40	:	

SUMMARY	
Principal feeding areas	Waters of Soda Lakes and shore along Sweetwater and North Platte Rivers and Goose Bay.
Principal nesting areas	
Reported by	V. Carrol Donner

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Form R-1A  
(Aug. 1952)

MIGRATORY B. S  
(Other than Waterfowl)

Refuge **Pathfinder**Months of **September** to **December**, 19 **68**

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total	
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use	
I. <u>Water and Marsh Birds:</u>											
Western Grebe	10	9/1	10	9/1-30	5	9/28				400	
Eared grebe	30	9/1	30	9/1-15	3	9/28				300	
Pied-billed grebe	1	9/28	1	9/28	1	9/28				10	
Great blue heron	9	9/1	9	9/1-15	2	9/28				200	
II. <u>Shorebirds, Gulls and Terns:</u>											
California gull	70	9/1	70	9/1-20	21	9/28				1,800	
Wilson's phalarope	500	9/1	500	9/1-10	40	9/28				5,500	
Long-billed dowitcher	20	9/1	20	9/1-10	2	9/28				250	
Willet	25	9/1	25	9/1-10	10	9/15				250	
Long-billed curlew	32	9/1	32	9/1-10	5	9/15				350	
Killdeer	50	9/1	50	9/1-30	50	9/28				1,500	
						(over)					

(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	40	9/1	40	9/1-10	1	9/28			400
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle	4	9/1	4	9/1-10	1	9/15			50
Peregrine <del>hawk</del> falcon	1	9/1			3	9/28			
Horned owl	3	9/1	3	9/1-12/31					300
Magpie	20	9/1	20	9/1-20	10	9/28			500
Raven									
Crow									
Marsh hawk	8	9/1	8	9/1-20	2	9/28			200
Rough-legged hawk	3	9/1	3	9/1-10	1	9/28			50
						Reported by <b>V. Carroll Donner</b>			

**INSTRUCTIONS** (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) **Species:** Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) **First Seen:** The first migration record for the species for the reporting period.
- (3) **Peak Numbers:** Estimated number and inclusive dates when peak population of the species occurred.
- (4) **Last Seen:** The last refuge record for the species during the season concerned.
- (5) **Production:** Estimated number of young produced based on observations and actual counts.
- (6) **Total:** Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1750c  
Form NR-  
(Sept. 1960)

WATERFOWL    WATER KILL SURVEY

Refuge Pathfinder

Year 1968

(1) Weeks of Hunting	(2) No. Hunters Checked	(3) Hunter Hours	(4) Waterfowl Species and Nos. of Each Bagged	(5) Total Bagged	(6) Crippling Loss	(7) Total Kill	(8) Est. No. of Hunters	(9) Est. Total Kill
			No observation of hunters or contact with hunters was made. Neither has contact been made with Wyoming Game and Fish Personnel who checked these areas. Any information submitted would be a guess.					

(over)

INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Green-winged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent.  $\text{Column 9} = \frac{\text{Column 8}}{\text{Column 2}} \times \text{Column 7}.$



3-1752  
Form NR-2  
(April 1946)

UPLAND GAME BIRDS

Refuge Pathfinder

Months of September to December, 19 68

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs v'd. Estimated Total	Percentage			Hunting For Re- stocking For Research	Estimated number using Refuge  Pertinent information not specifically requested. List introductions here.
Sage grouse	Sage brush flats, draws, and meadows 750 acres	7.5		100:100			100	Some hunting of these birds occur as they move off the refuge occasionally.

# INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

3-1753  
Form 1 }  
(June 1945)

BIG GAME

Refuge Pathfinder

Calendar Year 1968

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover Types, Total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At Period of Greatest Use	As of Dec. 31	
Antelope	Sagebrush flats and draws, hillsides, meadows, and shoreline of reservoir and rivers - 12,000 acres		150									1,000	850	20:100
Mule deer	Rocky hillsides, sagebrush draws, and meadows - 1,500 acres		5									75	70	30:100

Remarks:

Reported by V. Carrol Donner



INSTRUC1 NS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

## DISEASE

Refuge PathfinderYear 19 68Botulism None noted

Lead Poisoning or other Disease

Period of outbreak \_\_\_\_\_

Period of heaviest losses \_\_\_\_\_

## Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) \_\_\_\_\_

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) \_\_\_\_\_

Condition of vegetation and invertebrate life \_\_\_\_\_

Remarks \_\_\_\_\_

Kind of disease \_\_\_\_\_

Species affected \_\_\_\_\_

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_

Refuge Pathfinder Year 19 68

Collections and Receipts (Seeds, rootstocks, trees, shrubs)							Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
None													

- (1) Report agronomic farm crops on Form NR-8
- (2) C = Collections and R = Receipts
- (3) Use "S" to denote surplus

Total acreage planted:  
Marsh and aquatic \_\_\_\_\_  
Hedgerows, cover patches \_\_\_\_\_  
Food strips, food patches \_\_\_\_\_  
Forest plantings \_\_\_\_\_

Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## CULTIVATED CROPS - HAYING - GRAZING

Refuge PathfinderCounty NatronaState Wyoming

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
No cultivating crops or laying. The only (1) grazing permit on Pathfinder Refuge is handled by Bureau of Reclamation.									
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations \_\_\_\_\_ Haying Operations \_\_\_\_\_ Grazing Operations \_\_\_\_\_

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle				
				2. Other				
				1. Total Refuge Acreage Under Cultivation				
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR-8  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.



## REFUGE GRAIN REPORT

Refuge PathfinderMonths of September through December, 1968

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
No storage at Pathfinder - See Hutton Lake Report.											

(8) Indicate shipping or collection points \_\_\_\_\_

(9) Grain is stored at \_\_\_\_\_

(10) Remarks \_\_\_\_\_

\*See instructions on back.

(10) Remarks

NR-8a

## REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

**Report all grain in bushels.** For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

16-61482-1 U. S. GOVERNMENT PRINTING OFFICE

Amount	On hand beginning of year	Received during year	Total	Transferred	Shipped	Lost	Left	Transferred from other refuge	Seed	Feed	Surplus
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)

Remarks

Months of September through December 1941

REFUGE GRAIN REPORT

ANNUAL REPORT OF PESTICIDE APPLICATION

**Pathfinder**

Proposal Number

Reporting Year

**1968**

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
None								

10. Summary of results (continue on reverse side, if necessary)